

POLO GAMES CULTIVATION OF PAPAYA Maui IN HAWAIIAN ISLANDS

VS.

Kauai

HON. S. M. DAMON'S
Moanalua Polo Grounds

August 24 and 27.

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Every day

Following is the paper on Papaya
cultivation read by H. M. Wells before
the Farmers' Institute:

The papaya is supposed to be in-
digenous to Central America. From
there it has been introduced through al-
most the entire tropical world. While
it is distinctly a tropical fruit and
reaches its greatest perfection only in
hot climates yet it may be cultivated
with greater or less success as far north
as the limit of frost. Hawaii, being a
semi-tropical land, furnishes then only
a moderately good home for this
luscious fruit.

It flourishes best on the lee side of
our Islands, and in sheltered positions,
though the trees will bear an astonish-
ing amount of wind and still do fairly
well, especially if they are grown in
masses.

LOCATION AND SOIL.

In selecting a location for a papaya
grove too great care cannot be exer-
cised. The essentials to success are
good soil, abundant of water and good
drainage.

Good soil in this case does not neces-
sarily mean soil that is entirely free
from stones. Indeed the papaya is said
to flourish best in rocky soil. In my
own experience I have found that they
flourish wherever they can get a foot-
hold among the rocks, and can thrust
off their numerous lateral roots in
search of food, either under or between
the rocks.

However rocks are not an absolute
essential to the cultivation of the pa-
paya, and if your field has once been
cleared of them, a return to natural
conditions would hardly be advisable.
Sandy soil is not best suited to their
growth, nor is a heavy clay soil unless
you are sure of your drainage.

Abundance of water is an essential;
and this not only about the trunks of
the trees but over the entire field. For
the roots penetrate every portion of the
surface soil, and if water is not present
in sufficient quantities, the trees, and
hence the fruit, will suffer.

Most important of all perhaps is good
drainage; for a few days of standing
under-water will ruin an orchard after
one has carefully tended it for months
or years. Several cases of this kind
have come to my notice. Either a de-
cided slope or a porous soil or both are
absolutely necessary.

PREPARATION OF SOIL.

Preparation of soil will vary much
according to conditions. If the field
can be plowed to a good depth so much
the better; but if the soil is fairly light
and porous, this is not absolutely neces-
sary.

A good dressing of stable manure
thoroughly worked into the soil a month
or two before planting would undoubt-
edly bring large returns. Indeed it is
almost impossible to make the soil too
rich, as the papaya is a gross feeder and
will amply repay any extra outlay in
the way of fertilizer by quickness and
rankness of growth, and in the increas-
ed number, size and quality of its fruits.
As one Honolulu lady remarked, "You
must plant cats and dogs in the same
hole with your trees if you want big
papayas." This lady had some eighteen
pounds on her trees; I think the largest
ever grown here.

In our red soil at Kaimuki, the only
preparation I have found necessary was
to dig holes, some three feet in diam-
eter and one foot deep wherever I could
find sufficient space between the rocks.
Into the soil thus loosened, we have put
a handful of high grade commercial fer-
tilizer. This fertilizer has been thor-
oughly mixed with the soil a day or
two before transplanting to prevent
burning. The young plant responds
very quickly to this extra stimulus,
and grows with almost amazing rapid-
ity.

SELECTION AND SOWING OF SEED.

The selection of seed is a very im-
portant matter, and a rather difficult
one. Several species of papayas have
been brought to Hawaii, but it is al-
most impossible to secure pure seed of
any of them, so liable are they to cross-
fertilization. However there are lines
of division that are as yet quite dis-
tinct among our Hawaiian grown pa-
payas.

One of the best species for general
planting is the so-called "long" pa-
paya, sometimes called the Mexican pa-
paya. This I believe to be in its pure
state, the most highly bred of them all.

One distinctive feature of this variety
and a very important one is that there
are no male trees. Every tree is com-
pletely hermaphrodite and so fruit-
bearing. A field planted to this variety
alone presents a most pleasing sight
of strong even growth, and under fa-
vorable conditions, of very heavy fruit-
age. Indeed I sometimes think this va-
riety will bear more neglect than any
of the others before refusing to yield
any more fruit.

The long papaya is so distinct from
the others that a description seems al-
most needless here. The fruits are from
eight to fourteen inches long, and from
three to five in diameter. They are
blunt at the stem end, and more or
less pointed at the blossom end. Its
flesh is fine-grained, juicy and delicious.
The only objection to this papaya as
a market sort is that it does not keep
as well as some others. Dealers also
object to it on the ground that it is
too heavy for its apparent size, being
very meaty and solid, yet there are
many customers who will have no other
if this variety is to be had in the mar-
ket.

Seed of this variety as of all others
will seldom come quite true, yet one
is almost sure of getting good fruit.
Some trees will bear an oval fruit,
others deeply grooved. On others the ty-
pical long fruit will hang side by side
with oval or with almost round fruit.
Yet all are of fine quality, and indeed
the hybrids seem firmer and sweeter
than the original type.

Next, or perhaps first in point of
value, is the so-called "half-long" said
by some to be a cross between the long
and one variety of the round papaya.

Here we find an almost endless va-
riation in form, yet there are certain
well defined characteristics that distin-
guish this sort from the inferior ones.
First in importance is their size. They

will average at least fifty per cent.
larger than any others, specimens
weighing ten pounds being not uncom-
mon. Second, they differ from others
in color. When young, the immature
fruit is of a dark green color; when
ripe they are of a rich golden color, or
sometimes of a russet green overlaid
with gold. Their flesh is of a rich
orange, firm, thick, juicy and rich, but
not quite as fine. This variety I con-
sider the best of all for the market.
They are good shippers, remaining firm
till almost ripe, large, attractive and
good sellers.

One other variety I would mention
as worthy of general cultivation. This
is the so-called "dwarf" papaya. While
this sort is in no respect a true dwarf,
yet its habit of growth is such that it
may be readily distinguished from all
others in a field.

The leaf stalk of this papaya is short
and decidedly recurved. The result, es-
pecially in a young tree is a trim,
compact little tree almost as symmetri-
cal as a kahili. As the tree gets older
this characteristic is less marked. The
leaf stalk has also a decided violet hue.
This may be the "violet" papaya that
grows to such a large size in the West
Indies.

The fruits of this variety set quite
freely on long stems. In this respect
it is similar to the "half long" men-
tioned above. But its fruits are of a more
decided pear shape, are smaller as
grown here, and are of a lighter green
when half grown.

In the winter months, this variety
was also quite marked in that it still
retained a decided green cast when
quite mature, so that the fruit was
often rejected as being too green when
really quite ready for the table. The
flesh in winter also seemed more juicy
and less sweet than any of the other
sorts. The hot weather however has
changed all this. This fruits at this
writing being quite yellow and sweet
when ripe.

While trees of this variety failed
under most favorable conditions to pro-
duce fruit of very large size, yet it is
a variety of decided merit, and some
dealers prefer something smaller than
the ten pounders. It remains to speak
of two other varieties grown here that
are more or less distinct. The first is
the round variety with the short stem,
the "mother papaya" of Mrs. Tucker's
song, the tree which has like the old
woman who lived in a shoe, "so many
children she doesn't know what to do."
This variety was, I suspect, the first
one introduced into Hawaii, and doubt-
less was responsible for the fact that
papayas were long considered only as
pig food in Hawaii.

This is the variety that you don't
want to save seed from—this and the
next one, the long bell-shaped sort.
The latter will rival the former in the
number of fruits it will set. I have
counted eighty on a single tree, but
not one reached a marketable size. No
doubt the size might be increased in
both of these varieties by thinning them
out, but I doubt if they would ever
equal the other sorts.

These five species, with variations are
all that I have yet observed here in
Hawaii unless the fruit of the so-called
male tree be called a variety. These
are very sweet but of no value. It
would be an interesting experiment
however, to see what kind of trees one
would raise from their seeds.

Our choice of seed then seems to lie
among three varieties, the long, the
half-long and the dwarf. Before we
leave this branch of our subject, how-
ever, it would be well to consider the
likelihood of our getting bearing trees
after all our trouble.

It has been a common experience to
plant a number of trees and after car-
ing for them for several months to
find that instead of having a well bal-
anced orchard one has a barren field.
Of course there is no such difficulty
with the long papaya, but with all
others it is a serious problem and any
light on it would be of great value.

A prominent gardener in the Islands
is responsible for the statement that
seed from the fruit of old trees will
produce a large proportion of bearing
trees, while that from young trees will
produce mostly males. If this is true it
is well worth remembering.

Many people have studied the young
plant trying to detect some sign by
which the two could be known when
quite young; but this is to say the least
very difficult. If the matter can be
determined in the seed so much the
better.

In this connection it might be well
to mention the fact that trees have
actually been changed from the flower-
ing or male to the fruit-bearing or
female simply by persistent breaking
off of the blossoms, or by topping, till
they show signs of reforming. This
sounds rather fishy, but it has actually
been done by several people in the Is-
lands.

I have, however, demonstrated to my
own satisfaction that this method is
not a success on a large scale, as it
takes a long time for new blossoms to
appear, and ten to one the old type
will persist through several periods of
adversity. In fact I have never yet
succeeded in changing one drone to a
worker.

PLANTING THE SEED.

Having selected our seed with all
due care, the next thing is to raise the
plants.

The seed when taken from the pa-
paya should first be washed, rubbing
them together with the hands to re-
move the outside covering and pulp,
then dried if not planted immediately.
Planting should be done in boxes from
four to six inches deep, in rows say
four inches apart, and seeds not near-
er than two inches.

One writer on the papaya has stated
that not one seed in a hundred will
grow. And he based his statement on
the fact that when the natives of
some island wanted a tree, they dug
a hole in the ground, and put in two
or three papayas, from which only two
or three plants would grow. This
method of determining the matter was
certainly not very conclusive to a prac-
tical gardener. My experience has been
that every well developed seed will
grow if given a chance.

Papaya seeds germinate slowly; hence

the soil in the boxes should be kept
moist for a long time. It is a good
plan to cover the boxes with sacking
or other material to retain the mois-
ture; being careful to remove the cov-
ering as soon as the plants appear,
which will be in ten days or two weeks.
When the plants are well up, a slight
application of fertilizer will hasten
their growth as it is important to keep
the plants moving from seed to matur-
ity. If a young plant has once become
stunted it is better to start over again.
Plants should not be over six inches
high when transplanted, as both roots
and stems of older plants are very
easily injured, and when injured will
die. Transplanting them must be done
with great care.

When the soil is of sufficient consis-
tency the boxes should be wet down
just enough so that the soil will cling
together. If too dry, it will crumble;
if too wet it will fall away from the
roots. Then remove one side of the
box and with a trowel or other sharp
tool carefully remove each plant with
its ball of dirt.

Plants should be placed not less than
eight feet apart. My practice has been
to put two trees in each hole to ensure
a larger percentage of bearing trees.

The great consideration now is to keep
the plants in a thrifty condition. With
us this has meant further applications
of fertilizer throughout the life of the
plant, say every three months. Do not
be afraid of overfeeding, or of giving
too much water if the drainage is good.
Do not plant anything between the
rows. The roots will permeate the
whole surface of the soil and will be
very jealous of any rivals.

The common practice of making a
small hole for the tree in the midst of
a grass plot is bad for any fruit, but
especially so for the papaya, and ex-
cept in rare cases will result in a
stunted growth, and either no fruit at
all, or fruit of very poor quality.

Under favorable conditions, fruit
should be picked in ten months or a
year from planting.

THE MARKET.

The market, so far as the raw prod-
uct is concerned, is of course very
limited, being confined to Honolulu
and what can be sold at the coast. So
far we have had very little experience
in shipping to the coast. One or two
shipments have gone very well, while
others have arrived in bad condition.
I believe that properly packed, they
can be sent to the coast successfully;
but it would take time and good hand-
ling to build up any large market for
them.

As to the canned product, others can
speak from a larger experience.

One point I wish to emphasize in
conclusion. I was told by a prominent
Island grower that seed from the best
trees would produce some trees that
were good bearers, and others that

THE BRIGHT SIDE

of life. It is a feeling common
to the majority of us that we
do not get quite the amount of
happiness we are entitled to.
Among the countless things
which tend to make us more or
less miserable ill health takes
first place. Hannah More said
that sin was generally to be at-
tributed to biliousness. No doubt
a crippled liver with the result-
ing impure blood, is the cause of
more mental gloom than any
other single thing. And who
can reckon up the fearful aggre-
gate of pain, loss and fear ar-
ising from the many diseases
which are familiar to mankind;
like a vast cloud it hangs over
a multitude no one can number.
You can see these people every-
where. For them life can scarce-
ly be said to have any "bright
side" at all. Hence the eager-
ness with which they search for
relief and cure. Remedies like
WAMPOLE'S PREPARATION
have not attained their high po-
sition in the confidence of the
people by bald assertions and
boasting advertisements. They
are obliged to win it by doing
actually what is claimed for them.
That this remedy deserves its
reputation is conceded. It is
palatable as honey and contains
the nutritive and curative prop-
erties of Pure Cod Liver Oil,
combined with the Compound
Syrup of Hypophosphites, Ex-
tracts of Malt and Wild Cherry.
Nothing has such a record of
success in Scrofula, Influenza,
Throat and Lung Troubles, and
emaciating complaints and dis-
orders that tend to undermine
the foundations of strength and
vigour. Its use helps to show
life's brighter side. Professor
Reddy, of Canada, says: "I have
much pleasure in stating that I
have used it in cases of debility
and found it to be a very valu-
able remedy as well as pleasing
to take." You cannot be disap-
pointed in it. Sold by chemists.

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Haleiwa Hotel for the week ending
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lulu; Mrs. J. A. McCandless, Master
James McCandless, T. M. Betchel, Col.
C. P. Lauke, Honolulu; Mr. and Mrs.
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Miss E. A. Purvis, Ontario, Cal.; A.
Holmes, E. K. Ellsworth, H. R. Grant,
Wailaie; John W. Farwell, L. Todd,
Honolulu.

Guests at Haleiwa.

The initial tournament of the Halei-
wa Golf Club was a decided success in
every way, the day being all that could
be desired and the course, thanks to
the recent rains, better than ever before.
The Haleiwa Hotel now controls the
entire course and as a result is able to
keep all horses and mules off the green,
which will very materially add to the
smoothness of the lie and the pleasure
of the players. The names of the first
five players, with scores and handicaps
are as follows:

	Score	Ha/cap	Net
Dr. H. Wood	114	23	91
F. J. Church	106	12	94
Judge A. S. Mahaulu	98	Ser.	98
G. S. Leithard	105	Ser.	105
Oswald Mayall	108	Ser.	108

Judge Mahaulu made the best gross
score, 98, and Fred Church the next,
106, both playing better than they have
ever done before. C. W. Case Deering
did the best driving of the day, but
showed lack of practice in his approach-
ing shot and on the putting green. On
the coming Sabbath golf will be forsak-
en for a climb up Kaala, a number of
enthusiasts expecting to come down
from town to make the ascent.

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cate with us.

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